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\*Admitted only in Maryland  
\*Admitted only in Virginia  
\*Practice limited to Federal Agencies

December 10, 2004

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Commissioner for Patents  
PO Box 1450  
Alexandria, VA 22313-1450

**Art Unit 2829**

Re: U.S. Utility Patent Application  
Appl. No. 10/730,093; Filed: December 9, 2003  
For: **Method for Making an Enhanced Die-Up Ball Grid Array Package  
With Two Substrates**  
Inventors: ZHAO *et al.*  
Our Ref: 1875.1730001

Sir:

Transmitted herewith for appropriate action are the following documents:

1. First Supplemental Information Disclosure Statement;
2. A listing of the cited documents on Form PTO-1449 (3 pages);
3. Copies of the cited documents (AR1-AT1, AR2-AT2, AR3-AT3);
4. One (1) return postcard; and

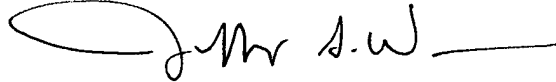
It is respectfully requested that the attached postcard be stamped with the date of filing of these documents, and that it be returned to our courier. In the event that extensions of time are necessary to prevent abandonment of this patent application, then such extensions of time are hereby petitioned.

Commissioner for Patents  
December 10, 2004  
Page 2

The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

A handwritten signature in black ink, appearing to read "J. Mr S.W.", with a long horizontal line extending to the right.

Jeffrey S. Weaver  
Attorney for Applicants  
Registration No. 45,608

RES/JSW:apg  
Enclosures

343446\_1.DOC



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

ZHAO *et al.*

Appl. No.: 10/730,093

Filed: December 9, 2003

For: **Method for Making an Enhanced  
Die-up Ball Grid Array Package  
with Two Substrates**

Confirmation No.: 2792

Art Unit: 2829

Examiner: Zarneke, David A.

Atty. Docket: 1875.1730001

**First Supplemental Information Disclosure Statement**

Commissioner for Patents  
PO Box 1450  
Alexandria, VA 22313-1450

Sir:

Listed on accompanying Form PTO-1449 are documents that may be considered material to the examination of this application, in compliance with the duty of disclosure requirements of 37 C.F.R. §§ 1.56, 1.97 and 1.98.

Applicants have listed publication dates on the attached PTO-1449 based on information presently available to the undersigned. However, the listed publication dates should not be construed as an admission that the information was actually published on the date indicated.

Applicants reserve the right to establish the patentability of the claimed invention over any of the information provided herewith, and/or to prove that this information may not be prior art, and/or to prove that this information may not be enabling for the teachings purportedly offered.

This statement should not be construed as a representation that a search has been made, or that information more material to the examination of the present patent application does not exist. The Examiner is specifically requested not to rely solely on the material submitted herewith.

Applicants have checked the appropriate boxes below.

- ☐ 1. Statement under 37 C.F.R. 1.704(d). Each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign

patent office in a counterpart application and this communication was not received by any individual designated in 37 C.F.R. § 1.56(c) more than thirty days prior to the filing of this information disclosure statement.

- ☒ 2. Filing under 37 C.F.R. § 1.97(b). This Information Disclosure Statement is being filed within three months of the date of filing of a national application other than a continued prosecution application (CPA), OR within three months of the date of entry of the national stage as set forth in 37 C.F.R. § 1.491 in an international application, OR before the mailing date of a first Office Action on the merits OR before the mailing of a first Office Action after the filing of a request for continued examination under 37 C.F.R. § 1.114. No statement or fee is required.
- ☐ 3. Filing under 37 C.F.R. § 1.97(c). This Information Disclosure Statement is being filed more than three months after the U.S. filing date AND after the mailing date of the first Office Action on the merits, but before the mailing date of a Final Rejection, or Notice of Allowance, or an action that otherwise closes prosecution in the application.
- ☐ a. Statement under 37 C.F.R. § 1.97(e)(1). I hereby state that each item of information contained in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(1).
- ☐ b. Statement under 37 C.F.R. § 1.97(e)(2). I hereby state that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to my knowledge after making reasonable inquiry, was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(2).
- ☐ c. Attached is our PTO-2038 Credit Card Payment Form in the amount of \$180.00 in payment of the fee under 37 C.F.R. § 1.17(p).

- ☐ 4. Filing under 37 C.F.R. § 1.97(d) This Information Disclosure Statement is being filed more than three months after the U.S. filing date and after the mailing date of a Final Rejection or Notice of Allowance, but before payment of the Issue Fee. Enclosed find our PTO-2038 Credit Card Payment Form in the amount of \$\_\_\_\_\_ in payment of the fee under 37 C.F.R. § 1.17(p); in addition:
- ☐ a. Statement under 37 C.F.R. § 1.97(e)(1). I hereby state that each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(1).
- ☐ b. Statement under 37 C.F.R. § 1.97(e)(2). I hereby state that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to my knowledge after making reasonable inquiry, was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(2).
- ☐ 5. The document(s) was/were cited in a search report by a foreign patent office in a counterpart foreign application. Submission of an English language version of the search report that indicates the degree of relevance found by the foreign office is provided in satisfaction of the requirement for a concise explanation of relevance. 1138 OG 37, 38.
- ☐ 6. A concise explanation of the relevance of the non-English language document appears below:
- ☒ 7. Copies of documents AR1-AT1, AR1-AT2, AR3-AT3 are submitted herewith. However, in accordance with 69 Fed. Reg. 56481, no copies of U.S patents and patent application publications cited on the attached Form PTO-1449 are submitted.
- ☐ 8. Copies of the documents were cited by or submitted to the Office in an IDS that complies with 37 C.F.R. § 1.98(a)-(c) in Application No. \_\_\_\_\_, filed

\_\_\_\_\_, which is relied upon for an earlier filing date under 35 U.S.C. § 120. Thus, copies of these documents are not attached. 37 C.F.R. § 1.98(d).

- ☒ 9. It is expected that the examiner will review the prosecution and cited art in the parent application no. 10/101,751, filed March 21, 2002, in accordance with MPEP 2001.06(b), and indicate in the next communication from the office that the art cited in the earlier prosecution history has been reviewed in connection with the present application.

It is respectfully requested that the Examiner initial and return a copy of the enclosed PTO-1449, and indicate in the official file wrapper of this patent application that the documents have been considered.

The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.



Jeffrey S. Weaver  
Attorney for Applicants  
Registration No. 45,608

Date: 12-10-04

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Washington, D.C. 20005-3934  
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FORM PTO-1449

THIRD SUPPLEMENTAL  
INFORMATION DISCLOSURE STATEMENTATTY. DOCKET NO.  
1875.1730001APPLICATION NO.  
10/730,093FIRST NAMED INVENTOR  
Sam Z. ZhaoFILING DATE  
December 9, 2003ART UNIT  
2829

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	AA1	5,744,863	04/1998	Culnane <i>et al.</i>			
	AB1	5,976,912	11/1999	Fukutomi <i>et al.</i>			
	AC1	6,040,984	03/2000	Hirakawa			
	AD1	6,614,660 B1	09/2003	Bai <i>et al.</i>			
	AE1	6,657,870 B1	12/2003	Ali <i>et al.</i>			
	AF1	6,724,071 B2	04/2004	Combs			
	AG1	6,724,080 B1	04/2004	Ooi <i>et al.</i>			
	AH1	2001/0040279 A1	11/2001	Mess <i>et al.</i>			
	AI1	2004/0072456 A1	04/2004	Dozier, II <i>et al.</i>			
	AJ1						
	AK1						

## FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AL1						Yes No
	AM1						Yes No
	AN1						Yes No
	AO1						Yes No
	AP1						Yes No

## OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

	AR	1	Amkor package data sheet, "SuperFC <sup>®</sup> ", from <a href="http://www.amkor.com/Products/all_datasheets/superfc.pdf">http://www.amkor.com/Products/all_datasheets/superfc.pdf</a> , 2 pages (Jan. 2003).
	AS	1	Andros, F., "Tape Ball Grid Array," from Puttlitz, K.J. and Totta, P.A. (eds.), <i>Area Array Interconnection Handbook</i> , pp. 619-620, ISBN No. 0-7923-7919-5, Kluwer Academic Publishers (2001).
	AT	1	Brofman, P.J. <i>et al.</i> , "Flip-Chip Die Attach Technology," Puttlitz, K.J. and Totta, P.A. (eds.), <i>Area Array Interconnection Handbook</i> , pp. 315-349, ISBN No. 0-7923-7919-5, Kluwer Academic Publishers (2001).

EXAMINER

DATE CONSIDERED

**EXAMINER:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

FORM PTO-1449

**THIRD SUPPLEMENTAL  
INFORMATION DISCLOSURE STATEMENT**

ATTY. DOCKET NO.  
1875.1730001

APPLICATION NO.  
10730,093

FIRST NAMED INVENTOR  
Sam Z. Zhao

FILING DATE  
December 9, 2003

ART UNIT  
2829

**U.S. PATENT DOCUMENTS**

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	AA2						
	AB2						
	AC2						
	AD2						
	AE2						
	AF2						
	AG2						
	AH2						
	AI2						
	AJ2						
	AK2						

**FOREIGN PATENT DOCUMENTS**

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AL2						Yes No
	AM2						Yes No
	AN2						Yes No
	AO2						Yes No
	AP2						Yes No

**OTHER (Including Author, Title, Date, Pertinent Pages, etc.)**

	AR	<u>2</u>	Ghosal, B. <i>et al.</i> , "Ceramic and Plastic Pin Grid Array Technology," Puttlitz, K.J. and Totta, P.A. (eds.), <i>Area Array Interconnection Handbook</i> , pp. 551-576, ISBN No. 0-7923-7919-5, Kluwer Academic Publishers (2001).
	AS	<u>2</u>	Harper, C.A. (ed.), <i>Electronic Packaging And Interconnection Handbook</i> , Third Edition, pp. 7.58-7.59, ISBN No. 0-07-134745-3, McGraw-Hill Companies (2000).
	AT	<u>2</u>	Lin, S. and Chang, N., "Challenges in Power-Ground Integrity," <i>Proceedings Of The 2001 International Conference On Computer-Aided Design</i> , pp. 651-654 (November 4-8, 2001).

EXAMINER

DATE CONSIDERED

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FORM PTO-1449

**THIRD SUPPLEMENTAL  
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1875.1730001

 APPLICATION NO.  
10/730,093

 FIRST NAMED INVENTOR  
Sam Z. Zhao

 FILING DATE  
December 9, 2003

 ART UNIT  
2829

**U.S. PATENT DOCUMENTS**

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	AA3						
	AB3						
	AC3						
	AD3						
	AE3						
	AF3						
	AG3						
	AH3						
	AI3						
	AJ3						
	AK3						

**FOREIGN PATENT DOCUMENTS**

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AL3						Yes No
	AM3						Yes No
	AN3						Yes No
	AO3						Yes No
	AP3						Yes No

**OTHER (Including Author, Title, Date, Pertinent Pages, etc.)**

	AR	<u>3</u>	Lloyd, J. and Overhauser, D., "Electromigration wreaks havoc on IC design," <i>EDN</i> , pp. 145-148 (March 26, 1998).
	AS	<u>3</u>	Song, W.S. and Glasser, L.A., "Power Distribution Techniques for VLSI Circuits," <i>IEEE Journal Of Solid-State Circuits</i> , Vol. SC-21, No. 1, pp. 150-156 (February 1986).
	AT	<u>3</u>	Tang, K.T. and Friedman, E.G., "Simultaneous Switching Noise in On-Chip CMOS Power Distribution Networks," <i>IEEE Transactions On Very Large Scale Integration (VLSI) Systems</i> , Vol. 10, No. 4, pp. 487-493 (August 2002).

EXAMINER

DATE CONSIDERED

**EXAMINER:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.